

believes is necessary for a determination under paragraph (e) of this section.

(e) The Commission will grant an application (or applications) involved in the agreement (or understanding) only if it finds upon examination of the information submitted, and upon consideration of such other matters as may be officially noticed, that the agreement is consistent with the public interest, and the amount of any monetary consideration and the cash value of any other consideration promised or received is not in excess of those legitimate and prudent costs directly assignable to the engineering, preparation, filing and advocacy of the withdrawn, dismissed, or amended application(s), amendment(s), petition(s), pleading(s), or any combination thereof. Where such costs represent the applicant's in-house efforts, these costs may include only directly assignable costs and must exclude general overhead expenses. [The treatment to be accorded such consideration for interstate rate making purposes will be determined at such time as the question may arise in an appropriate rate proceeding.] An itemized accounting must be submitted to support the amount of consideration involved except where such consideration (including the fair market value of any non-cash consideration) promised or received does not exceed one thousand dollars (\$1,000.00). Where consideration involves a sale of facilities or merger of interests, the accounting must clearly identify that portion of the consideration allocated for such facilities or interests and a detailed description thereof, including estimated fair market value. The Commission will not presume an agreement (or understanding) to be prima facie contrary to the public interest solely because it incorporates a mutual agreement to withdraw pending application(s), amendment(s), petition(s), pleading(s), or any combination thereof.

#### § 101.43 Opposition to applications.

(a) Any party in interest may file with the Commission a petition to deny any application for which public notice is required. All such petitions must:

(1) Identify the application or applications including applicant's name, station location, Commission file numbers and radio service involved with which it is concerned;

(2) Be filed in accordance with the pleading limitations, filing periods, and other applicable provisions of this Part and Part 1;

(3) Contain specific allegations of fact (except for those of which official notice may be taken), supported by affidavit of a person or persons with personal knowledge thereof and be sufficient to make a prima facie showing that the petitioner is a party in interest and that a grant of the application would be inconsistent with the public interest, convenience and necessity;

(4) Be filed within thirty (30) days after the date of public notice announcing the acceptance for filing of such applications or major amendments thereto, or, identifying the tentative selectee of a random selection proceeding (unless the Commission otherwise extends the deadline); and

(5) Contain a certificate of service showing that the applicant has been mailed a copy of the petition no later than the date on which the petition is filed with the Commission.

(b) The applicant may file an opposition to any petition to deny and the petitioner may file a reply thereto in which allegations of fact or denials thereof must be supported by an affidavit of a person or persons with personal knowledge thereof and be clearly identified. The applicant

must serve a copy of the opposition on the petitioner, and the petitioner must serve a copy of its reply on the applicant. The time for filing such oppositions and replies are provided in § 1.45.

(c) Notwithstanding the provisions of paragraph (a) of this section, before Commission action on any application for an instrument of authorization, any person may file informal objections to the grant. The Commission will consider informal objections, but not necessarily discuss them in a written opinion, if the objection is filed at least one day prior to action on the application and the objection is signed by the submitting person with a disclosure of that person's interest. Such objections may be submitted in letter form. The limitation on pleadings and time for filing pleadings provided for in § 1.45 will not be applicable to any objections duly filed pursuant to this paragraph.

(d) Petitions to deny not filed in accordance with paragraph (a) of this section will be treated as informal objections.

#### § 101.45 Mutually exclusive applications.

(a) The Commission will consider applications to be mutually exclusive if their conflicts are such that the grant of one application would effectively preclude by reason of harmful electrical interference, or other practical reason, the grant of one or more of the other applications. The Commission will presume "harmful electrical interference" to mean interference which would result in a material impairment to service rendered to the public despite full cooperation in good faith by all applicants or parties to achieve reasonable technical adjustments which would avoid electrical conflict.

(b) A common carrier application will be entitled to be included in a random selection process or to comparative consideration with one or more conflicting applications only if:

- (1) The application is mutually exclusive with the other application; and
- (2) The application is received by the Commission in a condition acceptable for filing by whichever "cut-off" date is earlier:

(i) Sixty (60) days after the date of the public notice listing the first of the conflicting applications as accepted for filing; or

(ii) One (1) business day preceding the day on which the Commission takes final action on the previously filed application (should the Commission act upon such application in the interval between thirty (30) and sixty (60) days after the date of its public notice).

(c) Whenever three or more applications are mutually exclusive, but not uniformly so, the earliest filed application established the date prescribed in paragraph (b)(2) of this section, regardless of whether or not subsequently filed applications are directly mutually exclusive with the first filed application. [For example, applications A, B, and C are filed in that order. A and B are directly mutually exclusive, B and C are directly mutually exclusive. In order to be considered comparatively with B, C must be filed within the "cut-off" period established by A even though C is not directly mutually exclusive with A.]

(d) Private fixed microwave applications for authorization under this Part will be entitled to be included in a random selection process or to comparative consideration with one or more conflicting applications in accordance with the provisions of §1.227(b)(4).

(e) An application otherwise mutually exclusive with one of more previously filed applications, but filed after the appropriate date prescribed in paragraphs (b) or (d) of this section, will be returned without prejudice and will be eligible for refiling only after final action is taken by the

Commission with respect to the previously filed application (or applications).

(f) For the purposes of this section, any application (whether mutually exclusive or not) will be considered to be a newly filed application if it is amended by a major amendment (as defined by § 101.29), except under any of the following circumstances:

(1) The application has been designated for comparative hearing, or for comparative evaluation (pursuant to Sec. 101.51), and the Commission or the presiding officer accepts the amendment pursuant to Sec. 101.29(b);

(2) The amendment resolves frequency conflicts with authorized stations or other pending applications which would otherwise require resolution by hearing, by comparative evaluation pursuant to Sec. 101.51, or by random selection pursuant to Sec. 101.49 provided that the amendment does not create new or additional frequency conflicts;

(3) The amendment reflects only a change in ownership or control found by the Commission to be in the public interest, and for which a requested exemption from the "cut-off" requirements of this section is granted;

(4) The amendment reflects only a change in ownership or control which results from an agreement under Sec. 101.41 whereby two or more applicants entitled to comparative consideration of their applications join in one (or more) of the existing applications and request dismissal of their other application (or applications) to avoid the delay and cost of comparative consideration;

(5) The amendment corrects typographical, transcription, or similar clerical errors which are clearly demonstrated to be mistakes by reference to other parts of the application, and whose discovery does not create new or increased frequency conflicts; or

(6) The amendment does not create new or increased frequency conflicts, and is demonstrably necessitated by events which the applicant could not have reasonably foreseen at the time of filing, such as, for example:

(i) The loss of a transmitter or receiver site by condemnation, natural causes, or loss of lease or option;

(ii) Obstruction of a proposed transmission path caused by the erection of a new building or other structure; or

(iii) The discontinuance or substantial technological obsolescence of specified equipment, whenever the application has been pending before the Commission for two or more years from the date of its filing.

(g) Applicants for the 932.5-935/941.5-944 MHz bands shall select a frequency pair. Applicants for these bands may select an unpaired frequency only upon a showing that spectrum efficiency will not be impaired and that unpaired spectrum is not available in other bands. During the initial filing window, frequency coordination is not required, except that an application for a frequency in the 942-944 MHz band must be coordinated to ensure that it does not affect an existing broadcast auxiliary service licensee. After the initial filing window, an applicant must submit evidence that frequency coordination has been performed with all licensees affected by the application. All frequency coordination must be performed in

accordance with § 101.103 of the Commission's Rules. In the event of mutually exclusive applications occurring during the initial filing window for the 932.5-935/941.5-944 MHz bands, applicants shall be given the opportunity to resolve these situations by applying for an alternative frequency pair, if one is available. To the extent that there are no other available frequencies or to the extent that mutually exclusive applications remain after this process is concluded, lotteries shall be conducted for each frequency pair among all remaining mutually exclusive applications, assuming appropriate coordination with existing broadcast auxiliary stations can be concluded, where necessary. In the event of mutually exclusive applications being received for these bands on the same day after the initial filing window has closed and a subsequent filing window opened, lotteries shall be conducted for each frequency pair among all mutually exclusive applications.

§ 101.47 Consideration of applications.

(a) Applications for an instrument of authorization will be granted if, upon examination of the application and upon consideration of such other matters as it may officially notice, the Commission finds that the grant will serve the public interest, convenience, and necessity.

(b) The grant will be without a formal hearing if, upon consideration of the application, any pleadings of objections filed, or other matters which may be officially noticed, the Commission finds that:

(1) The application is acceptable for filing, and is in accordance with the Commission's rules, regulations, and other requirements;

(2) The application is not subject to comparative consideration (pursuant to § 101.45) with another application (or applications), except where the competing applicants have chosen the comparative evaluation procedure of § 101.51 and a grant is appropriate under that procedure;

(3) A grant of the application would not cause harmful electrical interference to an authorized station;

(4) There are no substantial and material questions of fact presented; and

(5) The applicant is legally, technically, financially and otherwise qualified, and a grant of the application would serve the public interest.

(c) Whenever the Commission, without a formal hearing, grants any application in part, or subject to any terms or conditions other than those normally applied to applications of the same type, it will inform the applicant of the reasons therefor, and the grant will be considered final unless the Commission revises its action (either by granting the application as originally requested, or by designating the application for a formal evidentiary hearing) in response to a petition for reconsideration that:

(1) Is filed by the applicant within thirty (30) days from the date of the letter or order giving the reasons for the partial or conditioned grant;

(2) Rejects the grant as made and explains the reasons why the application should be granted as originally requested; and

(3) Returns the instrument of authorization.

(d) The Commission will designate an application for a formal hearing, specifying with particularity the matters and things in issue, if, upon consideration of the application, any pleadings or objections filed, or other matters which may be officially noticed, the Commission determines that:

(1) A substantial and material question of fact is presented;

(2) The Commission is unable for any reason to make the findings specified in paragraph (a) of this section and the application is acceptable for filing, complete, and in accordance with the Commission's rules, regulations, and other requirements.

(3) The application is entitled to comparative consideration (under § 101.45) with another application (or applications); or

(4) The application is entitled to comparative consideration (pursuant to § 101.45) and the applicants have chosen the comparative evaluation procedure of § 101.51 but the Commission deems such procedure to be inappropriate.

(e) The Commission may grant, deny, or take other action with respect to an application designated for a formal hearing pursuant to paragraph (d) of this section or Part 1 of this chapter.

(f) Whenever the public interest would be served thereby the Commission may grant one or more mutually exclusive applications expressly conditioned upon final action on the applications, and then either conduct a random selection process (in specified services under this rules part), designate all of the mutually exclusive applications for a formal evidentiary hearing or (whenever so requested) follow the comparative evaluation procedures of § 101.51, as appropriate, if it appears:

(1) That some or all of the applications were not filed in good faith, but were filed for the purpose of delaying or hindering the grant of another application;

(2) That the public interest requires the prompt establishment of radio service in a particular community or area;

(3) That a delay in making a grant to any applicant until after the conclusion of a hearing or a random selection proceeding on all applications might jeopardize the rights of the United States under the provision of an international agreement to the use of the frequency in question; or

(4) That a grant of one application would be in the public interest in that it appears from an examination of the remaining applications that they cannot be granted because they are in violation of provisions of the Communications Act, other statutes, or of the provisions of this chapter.

(g) Reconsideration or review of any final action taken by the Commission will be in accordance with Subpart A of Part 1 of this chapter.

#### § 101.49 Grants by random selection.

(a) If an application for an authorization in the Digital Electronic Message Service (DEMS) is

mutually exclusive with another such application and satisfies the requirements of § 101.45, the applicant may be included in the random selection process set forth in §§ 1.821, 1.822 and 1.825 of this chapter.

(b) Renewal applications will not be included in a random selection process.

§ 101.51 Comparative evaluation of mutually exclusive applications.

(a) In order to expedite action on mutually exclusive applications in services under this rules part where the random selection process does not apply, the applicants may request the Commission to consider their applications without a formal hearing in accordance with the summary procedure outlined in paragraph (b) in this section if:

(1) The applications are entitled to comparative consideration pursuant to Sec. 101.45;

(2) The applications have not been designated for formal evidentiary hearing; and

(3) The Commission determines, initially or at any time during the procedure outlined in paragraph (b) of this section, that such procedure is appropriate, and that, from the information submitted and consideration of such other matters as may be officially noticed, there are no substantial and material questions of fact presented (other than those relating to the comparative merits of the applications) which would preclude a grant under paragraphs (a) and (b) of § 101.47.

(b) Provided that the conditions of paragraph (a) of this section are satisfied, applicants may request the Commission to act upon their mutually exclusive applications without a formal hearing pursuant to the summary procedure outlined below:

(1) To initiate the procedure, each applicant will submit to the Commission a written statement containing:

(i) A waiver of the applicant's right to a formal hearing;

(ii) A request and agreement that, in order to avoid the delay and expense of a comparative formal hearing, the Commission should exercise its judgment to select from among the mutually exclusive applications that proposal (or proposals) which would best serve the public interest; and

(iii) The signature of a principal (and the principal's attorney if represented).

(2) After receipt of the written requests of all of the applicants the Commission (if it deems this procedure appropriate) will issue a notice designating the comparative criteria upon which the applications are to be evaluated and will request each applicant to submit, within a specified period of time, additional information concerning the applicant's proposal relative to the comparative criteria.

(3) Within thirty (30) days following the due date for filing this information, the Commission will accept concise and factual argument on the competing proposals from the rival applicants, potential customers, and other knowledgeable parties in interest.

(4) Within fifteen (15) days following the due date for the filing of comments, the

Commission will accept concise and factual replies from the rival applicants.

(5) From time to time during the course of this procedure the Commission may request additional information from the applicants and hold informal conferences at which all competing applicants will have the right to be represented.

(6) Upon evaluation of the applications, the information submitted, and such other matters as may be officially noticed the Commission will issue a decision granting one (or more) of the proposals which it concludes would best serve the public interest, convenience and necessity. The decision will report briefly and concisely the reasons for the Commission's selection and will deny the other application(s). This decision will be considered final.

#### License Transfers, Modifications, Conditions and Forfeitures

##### § 101.53 Assignment or transfer of station authorization.

(a) No station license, or any rights thereunder, may be transferred, assigned, or disposed of in any manner, voluntarily or involuntarily, directly or indirectly, or by transfer of control of any corporation or any other entity holding any such license, to any person except upon application to the Commission and upon finding by the Commission that the public interest, convenience and necessity will be served thereby.

(b) For purposes of this section, transfers of control requiring Commission approval must include any and all transactions that:

(1) Change the party controlling the affairs of the licensee, or

(2) Affect any change in a controlling interest in the ownership of the licensee, including changes in legal or equitable ownership, or

(c) Requests for transfer of control or assignment authority must be submitted on the application form prescribed by § 101.17 of this chapter, and must be accompanied by the applicable showings required by §§ 101.19, 101.21, and 101.55 of this chapter.

(d) The Commission must be promptly notified in writing when a licensee is voluntarily or involuntarily placed in bankruptcy or receivership and when an individual licensee, a member of a partnership which is a licensee, or a person directly or indirectly in control of a corporation which is a licensee, dies or becomes legally disabled. Within thirty days after the occurrence of such bankruptcy, receivership, death or legal disability, an application of involuntary assignment of such license, or involuntary transfer of control of such corporation, must be filed with the Commission, requesting assignment or transfer to a successor legally qualified under the laws of the place having jurisdiction over the assets involved.

(e) The assignor of a station licensed under this part may retain no right of reversion or reassignment of the license and may not reserve the right to use the facilities of the station for any period whatsoever. No assignment of license will be granted or authorized if there is a contract or understanding, express or implied, pursuant to which a right of reversion or reassignment of the license or right to use the facilities are retained as partial or full consideration for the assignment or transfer.

(f) No special temporary authority, or any rights thereunder, may be assigned or otherwise disposed of, directly or indirectly, voluntarily or involuntarily, without prior Commission approval.

§ 101.55 Considerations involving transfer or assignment applications.

(a) Licenses may not be assigned or transferred prior to the completion of construction of the facility. However, consent to the assignment or transfer of control of such a license may be given prior to the completion of construction where:

(1) The assignment or transfer does not involve a substantial change in or ownership or control of the authorized facilities; or in

(2) The assignment or transfer of control is involuntary due to the licensee's bankruptcy, death, or legal disability.

(b) The Commission will review a proposed transaction to determine if the circumstances indicate "trafficking" in licenses whenever applications (except those involving pro forma assignment or transfer of control) for consent to assignment of a license, or for transfer of control of a licensee, involve facilities that were:

(1) Authorized following a comparative hearing and have been operated less than one year, or;

(2) Involve facilities that have not been constructed, or;

(3) Involve facilities that were authorized following a random selection proceeding in which the successful applicant received preference and that have been operated for less than one year.

At its discretion, the Commission may require the submission of an affirmative, factual showing (supported by affidavits of a person or persons with personal knowledge thereof) to demonstrate that the proposed assignor or transferor has not acquired an authorization or operated a station for the principal purpose of profitable sale rather than public service. This showing may include, for example, a demonstration that the proposed assignment or transfer is due to changed circumstances (described in detail) affecting the licensee subsequent to the acquisition of the license, or that the proposed transfer of radio facilities is incidental to a sale of other facilities or merger of interests.

(c) If a proposed transfer of radio facilities is incidental to a sale of other facilities or merger of interests, any showing requested under paragraph (a) of this section must include an additional exhibit that:

(1) Discloses complete details as to the sale of facilities or merger of interests;

(2) Segregates clearly by an itemized accounting, the amount of consideration involved in the sale of facilities or merger of interests; and

(3) Demonstrates that the amount of consideration assignable to the facilities or business interests involved represents their fair market value at the time of the transaction.

(d) For the purposes of this section, the one year period is calculated using the following dates



(as appropriate):

(1) The initial date of grant of the license, excluding subsequent modifications;

(2) The date of consummation of an assignment or transfer, if the station is acquired as the result of an assignment of license, or transfer of control of corporate licensee; or

(3) The median date of the applicable commencement dates (determined pursuant to paragraphs (d) (1) and (2) of this section) if the transaction involves a system (such as a Point-to-Point Microwave System) of two or more stations. (The median date is that date so selected such that fifty percent of the commencement dates of the total number of stations, when arranged in chronological order, lie below it and fifty percent lie above it. When the number of stations is an even number, the median date will be a value half way between the two dates closest to the theoretical median).

#### § 101.57 Modification of station license.

(a) Except as provided in § 101.59, no modification of a license issued pursuant to this part (or the facilities described thereunder) may be made except upon application to the Commission.

(b) No application for modification to extend a license construction period will be granted for delays caused by lack of financing or for lack of site availability. Applications for time extensions for other reasons must include a verified statement from the applicant showing that the licensee has made diligent efforts to construct the facilities and:

(1) That additional time is required due to circumstances beyond the applicant's control, in which case the applicant must describe such circumstances and must set forth with specificity and justify the precise extension period requested; or

(2) That there are unique and overriding public interest concerns that justify such an extension, in which case the applicant must identify such interests and must set forth and justify a precise extension period.

(c) Notwithstanding the provisions of paragraph (b), when a station license has been assigned or transferred pursuant to § 101.53, any extension of time will be limited so that the time left to construct after Commission grant of the transfer or assignment will be no more than the time remaining for construction at the date of the filing of the application for transfer or assignment.

(d) Modification of license is required for the following changes in authorized stations:

(1) Any change in frequencies used;

(2) Any change in antenna azimuth;

(3) Any change in antenna beamwidth;

(4) Any change in antenna or passive repeater location greater than 1 second or which involves a requirement for special aeronautical study;

(5) Any change in antenna polarization;

(6) Any change in antenna height;

(7) Any change in the size of passive reflectors or repeaters associated with the facilities of an authorized station;

(8) Any increase in emission bandwidth beyond that authorized;

(9) Any change in the type of emission;

(10) Any change in authorized effective radiated power in excess of 3 dB (a 2-to-1 ratio);

(11) Substitution of equipment having different frequency tolerance.

(e) When the name of the licensee is changed (without changes in the ownership, control, or corporate structure), or when the mailing address is changed (without changing the authorized location of the fixed station) a formal application for modification of license is not required. However, the licensee must notify the Commission within thirty days of the effective date of these changes. The notice, which may be in letter form, must contain the name and address of the licensee as they appear in the Commission's records, the new name or address, the call signs and classes of all radio stations authorized to the licensee under this part and the radio service in which each station is authorized. The notice must be sent to the Federal Communications Commission, Gettysburg, PA 17325 and a copy must be maintained with the license of each station until a new license is issued.

#### § 101.59 Processing of applications for facility minor modifications.

(a) Unless an applicant is notified to the contrary by the Commission, as of the twenty-first day following the date of public notice, any application that meets the requirements of paragraph (b) of this section and proposes only the change specified in paragraph (c) of this section will be deemed to have been authorized by the Commission.

(b) An application may be considered under the procedures of this section only if:

(1) It is in the Point-to-Point Microwave Radio, Local Television Transmission, or Digital Electronic Message Service;

(2) The cumulative effect of all such applications made within any 60 days period does not exceed the appropriate values prescribed by paragraph (c) of this section;

(3) The facilities to be modified are not located within 56.3 kilometers (35 miles) of the Canadian or Mexican border;

(4) It is acceptable for filing, is consistent with all of the Commission's rules, and does not involve a waiver request;

(5) It specifically requests consideration pursuant to this section; and

(6) Frequency coordination procedures, as necessary, are complied with in accordance with § 101.103(d) or, in the Digital Electronic Message Services, a copy of the application has been served on those who also were served under § 101.509.

(c) The modifications that may be authorized under the procedures of this section are:

(1) Changes in a transmitter and existing transmitter operating characteristics, or protective configuration of transmitter, provided that:

(i) In all radio services other than Digital Electronic Message Service, any increase in transmitter output power is less than three dB over the previously authorized output power; and in Digital Electronic Message Service, any increase in transmitter output power is one and one-half dB or less over the previously authorized output power;

(ii) The necessary bandwidth is not increased beyond the previously authorized bandwidth;

(2) Changes in the center line height of an antenna, provided that:

(i) In all radio services except the Digital Electronic Message Service, any increase in antenna height is less than 6.1 meters (20 feet) above the previously authorized height;

(ii) In Digital Electronic Message Service, any increase in antenna height is less than 3.0 meters (10 feet) above the previously authorized height; and

(iii) The overall height of the antenna structure is not increased as a result of the antenna extending above the height of the previously authorized structure, except when the new height of the antenna structure is 6.1 meters (20 feet) or less (above ground or man-made structure, as appropriate) after the change is made.

(3) Change in the geographical coordinates of a transmit station, receive station or passive facility by five (5) seconds or less of latitude, longitude or both, provided that when notice to the FAA of proposed construction is required by Part 17 of the rules for antenna structure at the previously authorized coordinates (or will be required at the new location) the applicant must comply with the provisions of § 101.21(a).

(d) Upon grant of an application under the procedure of this section and at such time that construction begins, the applicant must keep a complete copy of the application (including the filing date) with the station license if construction begins prior to receipt of the authorization.

§ 101.61 Certain modifications not requiring prior authorization.

(a) Equipment in an authorized radio station may be replaced without prior authorization or notification if the replacement equipment is equivalent to the replaced equipment.

(b) Licensees of fixed stations in the Point-to-Point Microwave Radio, Local Television Transmission, or Digital Electronic Message, may make the facility changes listed in paragraph (c) of this section without obtaining prior Commission authorization, if:

(1) Frequency coordination procedures, as necessary, are complied with in accordance with § 101.103(d) or, in the Digital Electronic Message Services, a copy of the notification described in (b)(3) is served on those who were served under § 101.509, and

(2) The cumulative effect of all facility changes made within any 60 day period does not exceed the appropriate values prescribed by paragraph (c) of this section, and

(3) The Commission is notified of changes made to facilities by the submission of a completed FCC Form 494 within thirty days after the changes are made.

(c) Modifications that may be made without prior authorization under paragraph (b) of this section are:

(1) Change or modification of a transmitter, when:

(i) The replacement or modified transmitter is type-accepted (or type-notified) for use under this Part and is installed without modification from the type-accepted (or type-notified) configuration;

(ii) The type of modulation is not changed;

(iii) The frequency stability is equal to or better than the previously authorized frequency stability; and

(iv) The necessary bandwidth and the output power do not exceed the previously authorized values.

(2) Addition or deletion of a transmitter for protection without changing the authorized power output (e.g. hot standby transmitters);

(3) Change to an antenna (other than any change involving a periscope antenna system), when:

(i) For the Point-to-Point Microwave Radio and Local Television Transmission Services, the new antenna conforms to the requirements of § 101.115 and has essentially the same or better radiation characteristics than the previously authorized antenna;

(ii) For the Digital Electronic Message Service, the new antenna conforms with § 101.517 and the gain of the new antenna does not exceed that of the previously authorized antenna by more than one dB in any direction.

(4) Any technical changes that would decrease the effective radiated power.

(5) Change to the height of an antenna, when:

(i) The new height (measured at the center-of-radiation) is within +/- 1.5 meters (5 feet) of the previously authorized height; and

(ii) The overall height of the antenna structure is not increased as a result of the antenna extending above the height of the previously authorized structure, except when the new height of the antenna structure is 6.1 meters (20 feet) or less (above ground or man-made structure, as appropriate) after the change is made.

(6) Decreases in the overall height of an antenna structure, provided that, when notice to the FAA of proposed construction was required by Part 17 of the Rules for the antenna structure at the previously authorized height, the applicant must comply with the provisions of § 101.21(a).

(7) Changes in the azimuth of the center of the main lobe of radiation of a point-to-point station's antenna by a maximum of one degree.

(8) Changes to the transmission line and other devices between the transmitter and the antenna when the effective radiated power of the station is not increased by more than one dB.

(d) Licensees may notify the Commission of permissible changes or correct erroneous information on a license not involving a major change (i.e., a change that would be classified as a major amendment as defined by § 101.29) without obtaining prior Commission approval by filing FCC Form 494.

#### § 101.63 Period of construction; certification of completion of construction.

(a) Except as provided in paragraphs (b) and (f) of this section, each station authorized under this part must be in operation within 12 months from the initial date of grant. Modification of an operational station must be completed within 12 months of the date of grant of the applicable modification request.

(b) Each station licensed on point-to-multipoint frequencies in the 10.6 GHz and 18 GHz bands must be in operation within 18 months of the initial date of grant. Modification of an operational station must be completed within 18 months of the initial date of grant of the applicable modification request.

(c) Failure to timely begin operation means the authorization cancels automatically and must be returned to the Commission. Neither the capability for transmission nor the transmission of color bars or similar test signals constitutes operation. For purposes of this rule, the transmission of operational traffic, not test or maintenance signals, is necessary and sufficient to constitute operation.

(d) The frequencies associated with all point-to-multipoint authorizations which have cancelled automatically or otherwise been recovered by the Commission will again be made available for reassignment on a date and under terms set forth by Public Notice.

(e) Requests for extension of time to be in operation may be granted upon a showing of good cause, setting forth in detail the applicant's reasons for failure to have the facility operating in the prescribed period. Such requests must be submitted no later than 30 days prior to the end of the prescribed period to the Federal Communications Commission, Gettysburg, PA 17325-7245.

(f) Construction of Common Carrier stations may not commence until the grant of a license, and must be completed by the date specified in the license as the termination date of the construction period. Each licensee must file with the Commission a certification of completion of construction using FCC Form 494A, certifying that the facilities as authorized have been completed and that the station is now operational and ready to provide service to the public, and will remain operational during the license period, unless the license is submitted for cancellation.

#### § 101.65 Forfeiture and termination of station authorization.

(a) A common carrier license will be automatically forfeited in whole or in part without further notice to the licensee upon:

(1) The expiration of the construction period specified therein, or after such additional time as may be authorized by the Commission, unless within 5 days after construction period date a certification

of completion of construction has been filed with the Commission pursuant to § 101.63; or

(2) The expiration of the license period specified therein, unless prior thereto an application for renewal of such license has been filed with the Commission; or

(3) The voluntary removal or alteration of the facilities, so as to render the station not operational for a period of 30 days or more.

(b) A license forfeited in whole or in part under the provisions of paragraph (a)(1) or (a)(2) may be reinstated if the Commission, in its discretion, determines that reinstatement would best serve the public interest, convenience and necessity. Petitions for reinstatement filed pursuant to this subsection will be considered only if:

(1) The petition is filed within 30 days of the expiration date set forth in paragraph (a)(1) or (a)(2) of this section, whichever is applicable;

(2) The petition explains the failure to timely file such notification or application as would have prevented automatic forfeiture; and

(3) The petition sets forth with specificity the procedures which have been established to insure timely filings in the future.

(c) A special temporary authorization will automatically terminate upon the expiration date specified therein, or upon failure to comply with any special terms or conditions set forth therein. Operation may be extended beyond such termination date only after application and upon specific authorization by the Commission.

(d) If a station licensed under this part discontinues operation on a permanent basis, the licensee must forward the station license to the Federal Communications Commission, Gettysburg, Pennsylvania 17325, for cancellation. For purposes of this section, any station which has not operated for one year or more is considered to have been permanently discontinued. See Section 101.305 for additional rules regarding temporary and permanent discontinuation of service.

#### § 101.67 License period.

(a) Except as provided in paragraph (e) of this Section, licenses for stations authorized under this Part will be issued for a period not to exceed 10 years from date of grant.

(b) The expiration date of developmental licenses will be one year from the date of the grant thereof. When a license is granted subsequent to the last renewal date of the class of license involved, the license will be issued only for the unexpired period of the current license term of such class.

(c) The Commission reserves the right to grant or renew station licenses in these services for a shorter period of time than that generally prescribed for such stations if, in its judgment, public interest, convenience, or necessity would be served by such action.

(d) Upon the expiration or termination of any station license, any related construction permit, which bears a later expiration date, will be automatically terminated concurrently with the related station license, unless it has been determined by the Commission that the public interest, convenience or necessity would be served by continuing in effect said construction permit.

(e) Licenses for Local Television Transmission Service stations that are assigned frequencies allocated to the broadcast services shall terminate simultaneously with the expiration of the authorization for the broadcast station to which such service is rendered.

§ 101.69 Transition of the 2.11-2.13, and 2.16-2.18 GHz bands from Common Carrier Fixed Microwave Services and the 1.85-1.99, 2.13-2.15, and 2.18-2.20 GHz bands from Private Operational Fixed Microwave Service to emerging technologies.

(a) Licensees proposing to implement services using emerging technologies (ET Licensees) may negotiate with Common Carrier and Private Operational Fixed Microwave Service licensees (Existing Licensees) in these bands for the purpose of agreeing to terms under which the Existing Licensees would relocate their operations to other fixed microwave bands or to other media, or alternatively, would accept a sharing arrangement with the ET Licensee that may result in an otherwise impermissible level of interference to the existing licensee's operations. ET Licensees may also negotiate agreements for relocation of the Existing Licensees' facilities within the 2 GHz band in which all interested parties agree to the relocation of the Existing Licensee's facilities elsewhere within these bands. "All interested parties" includes the incumbent licensee, the emerging technology provider or representative requesting and paying for the relocation, and any emerging technology licensee of the spectrum to which the incumbent's facilities are to be relocated.

(b) Common Carrier and Private Operational Fixed Microwave licensees, with the exception of public safety facilities defined in paragraph (f) of this section, in bands allocated for licensed emerging technology services will maintain primary status in these bands until two years after the Commission commences acceptance of applications for an emerging technology services (two-year voluntary negotiation period), and until one year after an emerging technology service licensee initiates negotiations for relocation of the fixed microwave licensee's operations (one-year mandatory negotiation period) or, in bands allocated for unlicensed emerging technology services, until one year after an emerging technology unlicensed equipment supplier or representative initiates negotiations for relocation of the fixed microwave licensee's operations (one-year mandatory negotiation period). When it is necessary for an emerging technology provider or representative of unlicensed device manufacturers to negotiate with a fixed microwave licensee with operations in spectrum adjacent to that of the emerging technology provider, the transition schedule of the entity requesting the move will apply. Public safety facilities defined in paragraph (f) of this section will maintain primary status in these bands until four years after the Commission commences acceptance of applications for an emerging technology service (four-year voluntary negotiation period), and until one year after an emerging technology service licensee or an emerging technology unlicensed equipment supplier or representative initiates negotiations for relocation of the fixed microwave licensee's operations (one-year mandatory negotiation period).

(c) The Commission will amend the operation license of the fixed microwave operator to secondary status only if the following requirements are met:

(1) The service applicant, provider, licensee, or representative using an emerging technology guarantees payment of all relocation costs, including all engineering, equipment, site and FCC fees, as well as any reasonable, additional costs that the relocated fixed microwave licensee might incur as a result of operation in another fixed microwave band or migration to another medium;

(2) The emerging technology service entity completes all activities necessary for implementing the replacement facilities, including engineering and cost analysis of the relocation procedure and, if radio facilities are used, identifying and obtaining, on the incumbents' behalf, new microwave frequencies and frequency coordination; and

(3) The emerging technology service entity builds the replacement system and tests it for comparability with the existing 2 GHz system.

(d) The 2 GHz microwave licensee is not required to relocate until the alternative facilities are available to it for a reasonable time to make adjustments, determine comparability, and ensure a seamless handoff.

(e) If within one year after the relocation to new facilities the 2 GHz microwave licensee demonstrates that the new facilities are not comparable to the former facilities, the emerging technology service entity must remedy the defects or pay to relocate the microwave licensee back to its former or equivalent 2 GHz frequencies.

(f) Public safety facilities subject to the four-year voluntary and one-year mandatory negotiation periods, are those that the majority of communications carried are used for police, fire, or emergency medical services operations involving safety of life and property. The facilities within this exception are those facilities currently licensed on a primary basis pursuant to the eligibility requirements of § 90.19, Police Radio Service; § 90.21, Fire Radio Service; § 90.27 Emergency Medical Radio Service; and Subpart C of Part 90, Special Emergency Radio Services. Licensees of other Part 101 facilities licensed on a primary basis under the eligibility requirements of Part 90, Subparts B and C, are permitted to request similar treatment upon demonstrating that the majority of the communications carried on those facilities are used for operations involving safety of life and property.



# Subpart C - Technical Standards

## § 101.101 Frequency availability.

Frequency Band (MHz)	RADIO SERVICE				Notes
	Common Carrier (Part 101)	Private Radio (Part 101)	Broadcast Auxiliary (Part 74)	Other (Parts 15, 21 24, 74, & 78)	
928 - 929		MAS			
932.0 - 932.5	MAS	MAS			*
932.5 - 935.0	PPMS	OFS			*
941.0 - 941.5		MAS			*
941.5 - 944.0	PPMS	OFS	Aural BAS		*
952 - 960		OFS/MAS			
1850 - 1990		OFS		PCS	
2110 - 2130	PPMS			PCS	
2130 - 2150		OFS		PCS	
2150 - 2160		OFS		MDS	
2160 - 2180	PPMS			PCS	
2180 - 2200		OFS		PCS	
2450 - 2500		OFS	TV BAS		F/M/TF
2650 - 2690		OFS		MDS/ITFS	
3700 - 4200	PPMS,LTTS	OFS			
5925 - 6425	PPMS,LTTS	OFS			
6425 - 6525	LTTS	OFS	TV BAS	CARS	M
6525 - 6875	PPMS	OFS			
10,550 - 10,680	PPMS,DEMS	OFS,DTS			
10,700 - 11,700	PPMS	OFS			
11,700 - 12,200	LTTS	OFS			
12,200 - 12,700		OFS			
12,700 - 13,250	PPMS	OFS	TV BAS	CARS	F/M/TF
14,200 - 14,400	LTTS				
17,700 - 18,580	PPMS	OFS	TV BAS	CARS	
18,580 - 18,820	PPMS	OFS	Aural BAS	CARS	
18,820 - 18,920	DEMS	OFS			
18,920 - 19,160		OFS	Aural BAS		
19,160 - 19,260	DEMS	OFS			
19,260 - 19,700	PPMS	OFS	TV BAS	CARS	
21,200 - 23,600	PPMS,LTTS	OFS			TF
27,500 - 29,500	PPMS				
31,000 - 31,300	PPMS,LTTS	OFS		CARS	F/M/TF
38,600 - 40,000	PPMS	OFS	TV BAS		F/M/TF

BAS: Broadcast Auxiliary Service  
 CARS: Cable Television Relay Service  
 DEMS: Digital Electronic Message Service  
 LTTS: Local Television Transmission Service  
 MAS: Multiple Address System

MDS: Multipoint Distribution Service  
OFS: Private Operational Fixed Service  
PCS: Personal Communications Service  
PPMS: Point-to-Point Microwave Service

Notes:

F - Fixed  
M - Mobile  
TF - Temporary Fixed

\* - Applications for frequencies in the 932.5-935/941.5-944 MHz bands may be filed initially during a one-week period to be announced by public notice. After these applications have been processed, the Commission will announce by public notice a filing date for remaining frequencies. From this filing date forward, applications will be processed on a daily first-come, first-served basis.

§ 101.103 Frequency coordination procedures.

(a) Assignment of frequencies will be made only in such a manner as to facilitate the rendition of communication service on an interference-free basis in each service area. Unless otherwise indicated, each frequency available for use by stations in these services will be assigned exclusively to a single applicant in any service area. All applicants for, and licensees of, stations in these services must cooperate in the selection and use of the frequencies assigned in order to minimize interference and thereby obtain the most effective use of the authorized facilities. In the event harmful interference occurs or appears likely to occur between two or more radio systems and such interference cannot be resolved between the licensees thereof, the Commission may specify a time sharing arrangement for the stations involved or may, after notice and opportunity for hearing, require the licensees to make such changes in operating techniques or equipment as it may deem necessary to avoid such interference.

(b) The provisions of this section do not apply to operations in the band 31.0 to 31.3 GHz. Operations in this band are unprotected and subject to harmful interference from other licensed operations in this band.

(c) Frequency diversity transmission will not be authorized in these services in the absence of a factual showing that the required communications cannot practically be achieved by other means. Where frequency diversity is deemed to be justified on a protection channel basis, it will be limited to one protection channel for the bands 3,700-4,200, 5,925-6,425, and 6,525-6,875 MHz, and a ratio of one protection channel for three working channels for the bands 10,550-10,680 and 10,700-11,700 MHz. In the bands 3,700-4,200, 5,925-6,425, and 6,525-6,875 MHz, no frequency diversity protection channel will be authorized unless there is a minimum of three working channels, except that where a substantial showing is made that a total of three working channels will be required within three years, a protection channel may be authorized simultaneously with the first working channel. A protection channel authorized under such exception will be subject to termination if applications for the third working channel are not filed within three years of the grant date of the applications for the first working channel. Where equipment employing digital modulation techniques with cross-polarized operation on the same frequency is used, the protection channel authorized under the above conditions may be considered to consist of both polarizations of the protection frequency where such is shown to be necessary.

(d) Frequency coordination. When required, the following frequency usage coordination procedures will apply.

(1) General requirements. Proposed frequency usage must be prior coordinated with existing users in the area, and other applicants with previously filed applications, whose facilities could affect or be affected by the new proposal in terms of frequency interference on active channels, applied-for channels, or channels coordinated for future growth. Coordination must be completed prior to filing an application for regular authorization, or an amendment to a pending application, or a modification to a license. In coordinating frequency usage with stations in the fixed satellite service, applicants must also comply with the requirements of Sec. 101.713(c) and (d). In engineering a system or modification thereto, the applicant must, by appropriate studies and analyses, select sites, transmitters, antennas and frequencies that will avoid interference in excess of permissible levels to other users. All applicants and licensees must cooperate fully and make reasonable efforts to resolve technical problems and conflicts that may inhibit the most effective and efficient use of the radio spectrum; however, the party being coordinated with is not obligated to suggest changes or re-engineer a proposal in cases involving conflicts. Applicants should make every reasonable effort to avoid blocking the growth of systems as prior coordinated. The applicant must identify in the application all entities with which the technical proposal was coordinated. In the event that technical problems are not resolved, an explanation must be submitted with the application. Where technical problems are resolved by an agreement or operating arrangement between the parties that would require special procedures be taken to reduce the likelihood of interference in excess of permissible levels (such as the use of artificial site shielding) or would result in a reduction of quality or capacity of either system, the details thereof may be contained in the application.

(2) Coordination procedure guidelines are as follows:

(i) Coordination involves two separate elements: notification and response. Both or either may be oral or in written form. To be acceptable for filing, all applications and major technical amendments must certify that coordination, including response, has been completed. The names of the users with coordinated proposals, applicants, permittees, and licensees with which coordination was accomplished must be specified.

(ii) Notification must include relevant technical details of the proposal. At minimum, this should include, as applicable, the following:

Applicant's name.

Transmitting station name.

Transmitting station coordinates.

Frequencies and polarizations to be added or changed.

Transmitting equipment type, its stability, actual output power, emission designator, and type of modulation (loading).

Transmitting antenna type and model and, if required, a radiation pattern provided or certified by the manufacturer.

Transmitting antenna center line height above ground level and ground elevation above mean sea level.

Receiving station name.

Receiving station coordinates.

Receiving antenna type, model, gain, and, if required, a radiation pattern provided by the manufacturer.

Receiving antenna center line height above ground level and ground elevation above mean sea level.

Forward and reverse path azimuth and distance.

(iii) For transmitters employing digital modulation techniques, the notification should clearly identify the type of modulation. Upon request, additional details of the operating characteristics of the equipment must also be furnished.

(iv) Response to notification should be made as quickly as possible, even if no technical problems are anticipated. Any response to notification indicating potential interference must specify the technical details and must be provided to the applicant, in writing, within the 30-day notification period. Every reasonable effort should be made by all applicants, permittees and licensees to eliminate all problems and conflicts. If no response to notification is received within 30 days, the applicant will be deemed to have made reasonable efforts to coordinate and may file its application without a response.

(v) The 30-day notification period is calculated from the date of receipt by the applicant, permittee, or licensee being notified. If notification is by mail, this date may be ascertained by:

- (A) The return receipt on certified mail,
- (B) The enclosure of a card to be dated and returned by the recipient, or (C) A conservative estimate of the time required for the mail to reach its destination.

In the latter case, the estimated date when the 30-day period would expire should be stated in the notification.

(vi) An expedited prior coordination period (less than 30 days) may be requested when deemed necessary by a notifying carrier. The coordination notice should be identified as "expedited" and the requested response date should be clearly indicated. However, circumstances preventing a timely response from the receiving carrier should be accommodated accordingly. It is the responsibility of the notifying carrier to receive written concurrence (or verbal, with written to follow) from affected parties or their coordination representatives.

(vii) All technical problems that come to light during coordination must be resolved unless a statement is included with the application to the effect that the applicant is unable or unwilling to resolve the conflict and briefly the reason therefor.

(viii) Where a number of technical changes become necessary for a system during the course of coordination, an attempt should be made to minimize the number of separate notifications for these changes. Where the changes are incorporated into a completely revised notice, the items that were changed from the previous notice should be identified. When changes are not numerous or complex, the carrier receiving the changed notification should make an effort to respond in less than 30 days. When the notifying carrier believes a shorter response time is reasonable and appropriate, it may be helpful for that carrier to so indicate in the notice and perhaps suggest a response date.

(ix) If, after coordination is successfully completed, it is determined that a subsequent change could have no impact on some carriers receiving the original notification, these carriers must be notified of the change and of the coordinator's opinion that no response is required.

(x) Applicants, permittees and licensees should supply to all other applicants, permittees and licensees within their areas of operations, the name, address and telephone number of their coordination representatives. Upon request from coordinating applicants, permittees and licensees, data and information concerning existing or proposed facilities and future growth plans in the area of interest should be furnished unless such request is unreasonable or would impose a significant burden in compilation.

(xi) Carriers should keep other carriers with whom they are coordinating advised of changes in plans for facilities previously coordinated. If applications have not been filed 6 months after coordination was initiated, carriers may assume that such frequency use is no longer desired unless a second notification has been received within 10 days of the end of the 6 month period. Renewal notifications are to be sent to all originally notified parties, even if coordination has not been

successfully completed with those parties.

(xii) Any frequency reserved by a licensee for future use in the bands subject to this Part must, upon a showing by another licensee that it requires an additional frequency and cannot coordinate one that is not reserved for future use, file for the frequency within six (6) months after receiving such a showing or release the frequency for use by the requesting licensee.

(e) Where frequency conflicts arise between co-pending applications in the Point-to-Point Microwave Radio and Local Television Transmission Services, it is the obligation of the later filing applicant to amend his application to remove the conflict, unless it can make a showing that the conflict cannot be reasonably eliminated. Where a frequency conflict is not resolved and no showing is submitted as to why the conflict cannot be resolved, the Commission may grant the first filed application and dismiss the later filed application(s) after giving the later filing applicant(s) 30 days to respond to the proposed action.

(f) When the proposed facilities are to be operated in the band 12,500-12,700 MHz, applications must also follow the procedures in § 101.713 of this Part and the technical standards and requirements of Part 25 of this Chapter as regards licensees in the Communication-Satellite Service.

#### § 101.105 Interference protection criteria.

(a) The interference protection criteria for fixed stations subject to this Part are as follows:

(1) To long-haul analog systems, employing frequency modulated radio and frequency division multiplexing to provide multiple voice channels, the allowable interference level per exposure:

(i) Due to co-channel sideband-to-sideband interference must not exceed 5 pwpO (Picowatts of absolute noise power psophometrically weighted (pwpO), appearing in an equivalent voice band channel of 300-3400 Hz).

(ii) Due to co-channel carrier-beat interference must not exceed 50 pwpO.

(2) To short-haul analog systems employing frequency modulated radio and frequency division multiplexing to provide multiple voice channels, the allowable interference level per exposure:

(i) Due to co-channel sideband-to-sideband interference must not exceed 25 pwpO except in the 952-960 MHz band interference into single link fixed relay and control stations must not exceed 250 pwpO per exposure.

(ii) Due to co-channel carrier-beat interference must not exceed 50 pwpO except in the 952-960 MHz band interference into single link fixed relay and control stations must not exceed 1000 pwpO per exposure.

(3) FM-TV. In analog systems employing frequency modulated radio that is modulated by a standard, television (visual) signal, the allowable interference level per exposure may not exceed the levels which would apply to a long-haul or short-haul FM-FDM systems, as outlined in paragraphs (b)(1) and (2) of this section, having a 600-1200 voice channel capacity.

(b) In addition to the requirements of paragraph (a) of this Section the adjacent channel interference protection criteria to be afforded, regardless of system length, or type of modulation, multiplexing, or frequency band, must be such that the interfering signal does not produce more than 1.0 dB degradation of the practical threshold of the protected receiver.

(c) Applying the Criteria.

(1) Guidelines for applying the interference protection criteria for fixed stations subject to this Part are specified in TIA Telecommunications Systems Bulletin TSB 10, "Interference Criteria for Microwave Systems" (TSB 10). Other procedures that follow generally acceptable good engineering practices are also acceptable to the Commission.

(2) If TSB 10 guidelines cannot be used, the following interference protection criteria may be used by calculating the ratio in dB between the desired (carrier signal) and the undesired (interfering) signal (C/I ratio) appearing at the input to the receiver under investigation (victim receiver):

(i) Except as provided in § 101.605 of this Part, where the applicants proposed facilities are of a type not included in paragraphs (a) and (b) of this section or where the development of the carrier-to-interference (C/I) ratio is not covered by generally acceptable procedures, or where the applicant does not wish to develop the carrier-to-interference ratio, the applicant must, in the absence of criteria or a developed C/I ratio, employ the following C/I protection ratios:

*Co-channel interference:* both sideband and carrier-beat, applicable to all bands; the existing or previously authorized system must be afforded a carrier to interfering signal protection ratio of at least 90 dB except in the 952-960 MHz band where it must be 75 dB.

*Adjacent channel interference:* applicable to all bands; the existing or previously authorized system must be afforded a carrier to interfering signal protection ratio of at least 56 dB.

(3) Applicants for frequencies listed in Sec. 101.605(a)(1) must make the following showings that protection criteria have been met over the entire service area of existing systems. Such showings may be made by the applicant or may be satisfied by a statement from a Frequency Advisory Committee. For frequencies available to more than one service, the Frequency Advisory Committee must affirmatively show that coordination with similar Committees for the other services has been accomplished.

(i) For multiple address stations in the 928-929/952-960 MHz bands, a statement that the proposed system complies with the following co-channel separations from all existing stations and pending applications:

Fixed-to-fixed 145 km (90 miles)  
Fixed-to-mobile 113 km (70 miles)  
Mobile-to-mobile 81 km (50 miles)

Multiple address systems employing only remote stations will be treated as mobile for the purposes of determining the appropriate separation. For mobile operation, the mileage is measured from the reference point specified on the license application.

(ii) For multiple address stations in the 932-932.5/941-941.5 MHz bands, a statement that the proposed system complies with the following co-channel separation from all existing stations and pending applications:

Fixed-to-fixed 113 Km (70 miles)

(iii) In cases where the geographic separation standard in paragraphs (c)(4)(i) and (c)(4)(ii) of this section are not followed, an engineering analysis will be submitted to show the coordination of the proposed assignment with existing systems located closer than those standards.

The engineering analyses will include:

- (A) Specification of the interference criteria and system parameters used in the interference study.
- (B) Nominal service areas of each system included in the interference analysis.
- (C) Modified service areas resulting from the proposed system. The propagation models used to establish the service boundary limits must be specified and any special terrain features considered in computing the interference impact should be described.
- (D) A statement that all parties affected have agreed to the engineering analysis and will accept the calculated levels of interference.
- (5) Multiple address frequencies in the 956 MHz band may be assigned for use by mobile master stations on a primary basis. Multiple address frequencies in the 952 MHz band may be assigned for use by mobile master stations on a case-by-case basis. Mobile operation in the 952 MHz band will be on a secondary basis to fixed operations.

(6) Each application for new or modified nodal station on channels numbered 4A, 4B, 7, 9, and 19/20 in the 10.6 GHz band and all point-to-multipoint channels in the 18 GHz band must demonstrate that all existing co-channel stations are at least 56 kilometers from the proposed nodal station site. Applicants for these channels must certify that all licensees and applicants for stations on the adjacent channels within 56 kilometers of the proposed nodal station have been notified of the proposed station and do not object. Alternatively, or if one of the affected adjacent channel interests does object, the applicant may show that all affected adjacent channel parties are provided a C/I protection ratio of 0 dB. An applicants proposing to operate at an AAT greater than 91 meters must reduce its EIRP in accordance with the following table; however, in no case may EIRP exceed 70 dBm on the 10.6 GHz channels.

AAT (meters)	EIRP dBm
Above 300	+38
251 to 300	41
201 to 250	43
151 to 200	49
101 to 150	55
100 and below	85

(7) Each application for new or modified nodal station on channels numbered 21, 22, 23, and 24 in the 10.6 GHz band must include an analysis of the potential for harmful interference to all other licensed and previously applied for co-channel and adjacent channel station located within 80 kilometers of the location of the proposed station. The criteria contained in § 101.103(d)(3) must be used in this analysis. Applicants must certify that copies of this analysis have been served on all parties which might reasonably be expected to receive interference above the levels set out in § 101.103(d)(3) within 5 days of the date the subject application is filed with the Commission.

(d) An applicant filing for a modification of an existing station under the provisions of § 101.31 need not perform the interference protection analyses required by this section if the only modifications made to the station are one or more of the following:

- (1) Substitution of transmitting equipment having equal or tighter frequency tolerance.

(2) Any decrease in antenna primary lobe beamwidth which is accompanied by a corresponding decrease in antenna input power so as to not increase the effective radiated power in excess of 3dB (a 2 to 1 ratio).

(3) Any decrease in antenna height or transmitter output power.

(e) Effective August 1, 1985, when a fixed station that conforms to the technical standards of this subpart (or, in the case of the 12,200-12,700 MHz band, a direct broadcast satellite station) receives or will receive interference in excess of the levels specified in this section as a result of an existing licensee's use of non-conforming equipment authorized between July 20, 1961 and July 1, 1976, and the interference would not result if the interfering station's equipment complied with the current technical standards, the licensee of the non-conforming station must take whatever steps are necessary to correct the situation up to the point of installing equipment which fully conforms to the technical standards of this subpart. In such cases, if the engineering analysis demonstrates that (1) the conforming station would receive interference from a non-conforming station in excess of the levels specified in this section and (2) the interference would be eliminated if the non-conforming equipment were replaced with equipment which complies with the standards of this subpart, the licensee (or prospective licensee) of the station which would receive interference must provide written notice of the potential interference to both the non-conforming licensee and the Commission's office in Gettysburg, PA. The non-conforming licensee must make all required equipment changes within 180 days from the date of official Commission notice informing the licensee that it must upgrade its equipment, unless an alternative solution has been agreed to by all parties involved in the interference situation. If a non-conforming licensee fails to make all required changes within the specified period of time, the Commission may require the licensee to suspend operation until the changes are completed.

#### § 101.107 Frequency tolerance.

(a) The carrier frequency of each transmitter authorized in these services must be maintained within the following percentage of the reference frequency except as otherwise provided in paragraph (b) of this section or in the applicable subpart of this part (unless otherwise specified in the instrument of station authorization the reference frequency will be deemed to be the assigned frequency):

Frequency (MHz)	Frequency tolerance (percent)		
	All fixed and base stations	Mobile stations over 3 watts	Mobile stations 3 watts or less
928 to 929 /2/5/	0.0005		
932 to 932.5 /2/	0.00015		
932.5 to 935 /2/	0.00025		
941 to 941.5	0.00015		
941.5 to 944	0.00025		
952 to 960 /7/			
944 to 1,000	0.0005	0.0005	0.0005
1,850 to 1,990	0.002		
2,110 to 2,200	0.001		
2,200 to 12,200 /1/	0.005	0.005	0.005
2,450 to 2,500	0.001		
6,425 to 6,875	0.005		



10,550 to 10,680	0.0003		
12,200 to 13,150 /6/	0.005		
12,200 to 17,700	0.03	0.03	0.03
17,700 to 18,820/4//5/	0.003		
18,820 to 18,920 /4//5/	0.001		
18,920 to 19,700 /4//5/	0.003		
19,700 to 40,000 /6/	0.03	0.03	0.03

/1/ Applicable only to common carrier LTTS stations. Beginning Aug. 9, 1975, this tolerance will govern the marketing of LTTS equipment and the issuance of all such authorizations for new radio equipment. Until that date new equipment may be authorized with a frequency tolerance of .03 percent in the frequency range 2,200 to 10,500 MHz and .05 percent in the range 10,500 MHz to 12,200 MHz, and equipment so authorized may continue to be used for its life provided that it does not cause interference to the operation of any other licensee.

/2/ Equipment authorized to be operated on frequencies between 890 and 940 MHz as of Oct. 15, 1956, must maintain a frequency tolerance within 0.03 percent subject to the condition that no harmful interference is caused to any other radio station.

/3/ See Subpart G for the stability requirements for transmitters used in the Digital Electronic Message Service.

/4/ Existing type accepted equipment with a frequency tolerance of  $\pm 0.03\%$  may be marketed until December 1, 1988. Equipment installed and operated prior to December 1, 1988 may continue to operate after that date with a minimum frequency tolerance of  $\pm 0.03\%$ . However, the replacement of equipment requires that the  $\pm 0.003\%$  tolerance be met.

/5/ For remote stations with 12.5 kHz bandwidth, the tolerance is  $\pm 0.00015\%$ .

/6/ Applicable to private operational fixed only. For exceptions see § 101.605.

/7/ For private operational fixed point-to-point systems, with a channel greater than or equal to 50 kHz bandwidth,  $\pm 0.0005\%$ ; for multiple address master stations, regardless of bandwidth,  $\pm 0.00015\%$ ; for multiple address remote stations with 12.5 kHz bandwidths,  $\pm 0.00015\%$ ; for multiple address remote stations with channels greater than 12.5 kHz bandwidth,  $\pm 0.0005\%$ .

(b) Heterodyne microwave radio systems may be authorized a somewhat less restrictive frequency tolerance (up to .01 percent) to compensate for frequency shift caused by numerous repeaters between base band signal insertion. Where such relaxation is sought, applicant must provide all calculations and indicate the desired tolerance over each path. In such instances the radio transmitters used must individually be capable of complying with the tolerance specified in paragraph (a) of this section.

(c) As an additional requirement in any band where the Commission makes assignments according to a specified channel plan, provisions must be made to prevent the emission included within the occupied bandwidth from radiating outside the assigned channel at a level greater than that specified in § 101.111.

#### § 101.109 Bandwidth.

(a) Each authorization issued pursuant to these rules will show, as the emission designator, a symbol